

The Management REVIEW



DECEMBER, 1941

COMMENT • DIGEST • REVIEW

THE AMERICAN MANAGEMENT ASSOCIATION

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December, 1941

INDUSTRY will never return to "normalcy" when the war ends. Such, briefly, is the disquieting keynote of a study of postwar problems abstracted in this issue (*The Industrial World of Tomorrow*, page 434). While government controls and economic planning will doubtless stop short of state socialism, they will never be wholly relaxed. And with peace will come crises and problems graver, perhaps, than war itself.

Small plants—many of which exist by grace of subcontracts—face tough sledding in the years ahead. Indeed, under pressure of the defense effort big business has grown bigger; and, we are warned, the small manufacturer who is not alert may find himself swallowed up by his big competitors when war orders cease. Employee relations too will pose problems: Foremost will be the task of absorbing the submarginal and single-skilled workers who will be the first laid off in defense industries when the fighting stops. Postwar "downgrading" will also call for the highest degree of managerial tact and adroitness. Will foremen accept demotion philosophically?—and will unions receive into membership men who have grown management-conscious in their supervisory positions?

Such questions may seem premature when we have only embarked on a shooting war. But industry is apparently determined not to be found napping when the eventual transition to peacetime activities must be made. To cushion the shock of postwar readjustment, many concerns are setting up financial reserves or have established postwar planning committees; others are simplifying their lines and products, or are developing more scientific methods of utilizing materials. Significantly, industry is spending 17 times as much for research annually as in the first year of World War I.

Also on the bright side is the far-reaching stimulus to postwar industry promised by lower-cost production techniques and increased mechanization. And, spurred by the war, industrial genius is devising a wealth of new products and substitutes which will flood the postwar world.

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THE MANAGEMENT INDEX

General Management

The Industrial World of Tomorrow

JUST as American industry's present war effort must exceed all other industrial efforts in history, so the long-range effects of this effort on industry will be more far-reaching than those of any other comparable period. The staggering impact of our war program is hammering industry and management into completely new shapes that will transform the industrial world of tomorrow.

The scramble for alternates to replace scarce materials has forced industry to learn far more about a much wider range of materials. This will mean important changes in the industrial materials of tomorrow. For then, users of materials who have been alert to the developments of today will be able to put their new knowledge to work as substitute materials fight to hold their gains, as defense-needed materials try to win back their old markets, and as many materials, producible in much greater quantities than formerly, cut prices drastically to crack open new markets.

Another important trend is toward more scientific utilization of materials.

Thus, parts previously made of solid materials are now made from more abundant materials sprayed, plated or "clad" with the scarce ones.

Research laboratories of materials producers are working overtime to develop their own defense programs for the war of materials that will break out once this war of men ceases. And alert companies are closely following developments in all materials, whether they're now obtainable or not.

War production is bringing a surge forward in the trend toward increased mechanization. And technological advance will mean a postwar workweek far shorter than ever—30 hours perhaps.

Exciting developments are taking place in machine tools. It's estimated that today's average machine tool has three times the productivity of the average machine built less than two years ago. For instance, a setup of two machines, operated by two men and working on supercharger front sections, does in 12 minutes what formerly took eight machines and eight men 224 minutes.

For publishers' addresses or information regarding articles or books, apply to AMA headquarters.

Undoubtedly technological advances now under way may shut out workers from some fields. Yet that it will bring greater total employment is a point which becomes less and less disputed. For industry to capitalize fully on the new materials, manpower, and techniques developed in this era will demand a flood of new products.

Swifter, better methods of materials handling, assembly, fabrication and maintenance are also forging ahead. But machining still remains the big time-consuming, money-consuming factor on many jobs. Aiming squarely at parital solution to this problem is powder metallurgy, which offers a wealth of possibilities for mass production of "machined" articles without machining: Parts are formed from metal powder under great pressure, then heat-treated to obtain desired strength.

Also developing, as a result of shortages, are healthy trends toward conservation and simplification. New and more widely used salvaging methods may well establish new and permanent practices.

Subcontracting is bringing many hard-to-solve new problems to small-plant operators, but also a flood of fresh ideas and techniques which will be useful when peacetime production resumes and competition—particularly big-company competition—is sharp.

Practically every phase of employer-employee relations has been vitally affected by war demands for increased production.

Defense needs are building in America a labor force as greatly expanded

as our new plant capacity and raw material sources. Yet this is not clear gain. If production is later curtailed, the veteran multi-skilled workers will be retained, the defense-trained single-skilled will be laid off. Women will by and large be the first to be fired when the shooting is over, and their efforts to find new jobs may disrupt wage structures in an uncontrolled labor market.

Profit sharing is giving way to wage adjustments based on living costs. Group incentive plans, measured by total production of departments with other weighted factors considered, are gaining at the expense of individual wage-incentive systems. Hospitalization, health, retirement insurance are continuing their growth, but with expansion of Social Security, company insurance and pension plans may be on the way out.

Though it is doubtful if union organization has actually kept pace with the increase of the labor force, universality of the labor movement is an important trend today: Farmers, white-collar workers, engineers, foremen—all may join "unions of their own choosing." And industrial unionization has been intensified at the expense of craft unionization.

Behind news headlines lies an increasing number of union-management contracts, equitably adjusted grievances, wisely administered relations. Management is coming of age; so is labor.

From defense-born conditions are developing marketing problems and practices that may have important long-

run effects. Use of new materials will call for wide changes in the engineering design of consumer products. Shortages may bring reform in product-servicing practices. And marketers will probably have a strengthened "consumer movement" to take account of.

Other current moves that may carry over include elimination of marginal accounts and of chronic price-cutters among dealers; simplification in package variety and size. Above all, there is little doubt of an important turnover in brand preferences—and thus in company fortunes—as a result of scarcities.

Industry will probably never again be completely free of government planning and control. Cartelization is hinted in current actions dividing up production facilities, supplies and defense work throughout an industry as a whole.

Smaller companies will probably have the hardest going in the years to

come. The defense program has hurt them, though they are now at last getting some defense contracts and subcontracts. But this is not so much a money-making proposition for them as it is a salvage operation—a move to keep small companies alive. When peace returns, large and financially strong companies will be in the best position to meet whatever new conditions appear. They may absorb the smaller units formerly kept alive by war work—perhaps their subcontractors. Big business, growing bigger during the war, may grow still bigger after the war is over unless small business is alert.

Whether the postwar economic world is sounder and saner than the one we have lived in depends on whether the lessons we should have learned from the experiences of our times are applied.

Modern Industry, November 15, 1941, p. 17:8.

Utility Clerks Relieve Office Overload

TO prevent bottlenecks that might be caused by peak loads, vacations and absences, one company maintains records that show where the overloads are occurring and uses specially trained utility clerks to keep the work up to date in all departments.

The California and Hawaiian Sugar Refining Corporation, Ltd., San Francisco, has trained selected stenographer-clerks on each type of position held by a woman in the office. Male utility clerks are not trained on the more important and difficult clerical jobs filled by men; instead, a utility clerk substitutes in a subordinate position and other clerks within the department move up to the more difficult jobs.

When sales show an increase, the Order-Billing Department is the first affected. Utility clerks are sent into this department to keep the work current, and they progress through each of the overload departments until the work is up to date. Vacation schedules are arranged to permit utility clerks to relieve employees on vacation. Utility clerks also serve as substitutes for absent employees. During slack times, the utility clerks do special work or review work on jobs they have previously learned.

A Work Progress Table aids in placing the utility clerks where work is falling behind.

—*Business Ideas for Increasing Profits* (Prentice-Hall, Inc.) 9/1/41

Office Management

Applying Time-Motion Study in the Office

THE work of some offices lends itself to motion and time study better than the work of others. For example, insurance companies, railroads and publishing houses are among those whose operations may be profitably studied. On the other hand, utilities as a rule do not find their work as readily adaptable to time-motion analysis. In general, those offices in which a fair degree of centralization of like activities has taken place are better fitted into a motion and time study program. Such organizations usually have central typing, filing, transcribing, statistical and calculating units.

Over one hundred companies were recently contacted to determine the extent to which time and motion study principles are being applied to clerical operations. Following are some of the office activities which have been studied in various companies and to which time values and wage incentives have been applied:

Manual Operations: order billing, book-keeping, typing, filing, calculating, messengering, invoice extending, key-punching, sorting, figuring payroll and labor distribution, stock-record posting, serial numbering and stamping, porter work, handling mail, hand-addressing, gathering, clipping, hand-folding, reading mail, counting, typing mimeograph stencils and ditto mastersheets.

Machine Operations: sorting machines, tabulating machines, check-writer, graphotype, automatic addressograph, hand addressograph, hand-fed multigraph, au-

tomatic-feed multigraph, multilith, mimeograph, autotypist, ditto.

What kind of results are offices getting from the application of motion and time study? The Lincoln National Life Insurance Company, of Fort Wayne, effected a decrease of 33 per cent in personnel after the inauguration of motion and time study. This company's system is such that, as salaries are increased, more production is required. The B. F. Goodrich Company uses motion-time analysis in the selection of office equipment. Standards have been established for about 22 office operations.

The Winchester Repeating Arms Company, New Haven, Conn., reports a 157 per cent increase after placing billing, typing and transcription on a straight piecework basis. The Atlantic Refining Company has established some of its standards synthetically. Since 1934 the volume of work in this organization has increased 40 per cent; personnel has decreased 39 per cent.

A few organizations have followed Professor Barnes' suggestions respecting porter work and office maintenance and have improved operations in these fields by supplying their men with non-skid sandals and having them stand at right angles to the direction of the stroke in scrubbing operations, and by using a squeegee instead of chamois for window washing.

Mr. J. A. Aldridge, Industrial Engineer for Sears, Roebuck in Chicago, has used the drop delivery principle in various operations. In one example, a hopper and scale are placed by the automatic letter-opener. Thus the opened letters are literally shot into the hopper for weighing.

The Tennessee Valley Authority has achieved encouraging results in applying motion study to office operations. In addition, this organization has made use of several jigs. One of these is a device for oiling file and desk-drawer channel slides. A three-fourths inch galvanized pipe six inches long is threaded at both ends; a coupling is filled with a wick made of cheesecloth and screwed on one end. Then the pipe is filled with oil and a cap screwed on the other end. With this device, it is claimed, a desk can be oiled in one-fifth the time previously required.

The TVA has done other work in methods improvement. For example, a defense project listed machine shops and their equipment in the Tennessee Valley area by companies. It was later found necessary to index this information by type of machine. One method would have been to retype the lists on index cards, sort the cards by type of equipment, list this information on sheets in another typing operation, and then check the accuracy of the list. As the number of items was large, considerable clerical labor would have been involved.

Instead, visible index strips and photography were used. The original listing was retyped upon sheets of

line-dex strips, a much simpler process than typing cards because the strips could be typed continuously while each card had to be inserted separately. Then the strips were separated, grouped by type of machine, and assembled in panels. These were kept in order by transparent tape, removed from the panels, and photographed on 8½ x 11" sheets. One typing process and part of another and a checking procedure were eliminated by this operation.

The Socony-Vacuum Oil Company, at Detroit, has made use of numerous jigs, and has also conducted a gadget contest. Some of the winning prizes were gathering racks, dictaphones on turntables so that they are available to two people sitting opposite each other, and foot-operated staplers. The Prudential Life Insurance Company, Newark, makes use of pre-positioning by having a numbering machine suspended by a coil spring. When a set of papers is numbered, the machine is released and the spring takes it out of the way.

There are many other gadgets in use in the office—e.g., a slipsheet remover for use in mimeographing, a device to be pasted around one end of the typewriter platen to indicate how far from the bottom of the sheet you are typing, an eraser placet, a pre-positioning idea on typewriter erasers.

One tool that could probably be as useful in the office as it is in the shop is process charting. In making job analyses of office routines, flow process charts are very useful in determining backtracking, duplication and unnecessary steps. Right- and left-hand oper-

ation charts have a place in deciding whether or not to make use of various types of mechanical equipment.

In seeking to improve office work, too much stress has been placed on the doing of the job and not enough on the make-ready and clean-up. Savings are sought in the operation of the

multilith or multigraph, while we neglect the inking, plate preparation, etc. Make-ready and clean-up offer very fertile fields for application of the principles of motion economy. By A. W. MOISE. From an address before the Industrial Management Society, November 8, 1941.

Office Economy in Britain

IN Great Britain, where war shortages and the increased cost of materials have focused the attention of office managers on saving and salvage, economies are being effected in many ways which might have been considered petty before the emergency. Among the methods of conservation which have been developed are the following:

1. Notepaper, envelopes and documents of all kinds are smaller.
2. Thinner paper is used in many cases.
3. Letters are single-spaced and typed on both sides of the paper, with greatly reduced margins.
4. The back of a letter is used for the carbon copy of the reply.
5. Window envelopes are used without the cellophane windows.
6. Envelopes are re-used.
7. The number of carbon copies is reduced. One company, which formerly had 10 copies made of each letter, now has only two.
8. The backs of old letters, received perhaps several years ago, are used for carbon copies.
9. Postcards are substituted for letters.
10. Margins on the outside edges of house magazines are cut down to about one-sixth of an inch.
11. Used hectograph carbons are being stored for re-use if the supply runs short, as it did in the last war.

—HARRY WARD (Management Research Group No. 1, London, England)

Wages and Cost of Living in Two World Wars

IN the first two years of the World War, hourly earnings rose more rapidly and weekly earnings less rapidly than in the same period of the present war. In June, 1916, weekly earnings in manufacturing industries were 15.1 per cent higher than in June, 1914. During the same period of the present war, weekly earnings rose 31.8 per cent, due in part to an increase in weekly hours from 37.3 in June, 1939, to 41.3 in June, 1941. The increases in hours and also in employment were mainly in high-wage industries, such as machine tools. Cost of living rose 8.9 per cent from June, 1914, to June, 1916, and 6.1 per cent in the corresponding later period. Workers had larger wage increases in manufacturing than in many other employments, but, with important exceptions in both periods, wage earners could buy more at the end of the first two years of war than at the beginning.

—Monthly Labor Review 11/41

Determining Stenographic Salaries

STENOGRAPHIC salaries are a bugaboo in many offices. Employers hire stenographers because they are good looking, or for various kindred reasons, instead of considering principally ability. Too frequently, salary increases are granted in the same careless manner.

For those who are interested in determining the true worth of a stenographer, the following plan is presented. It assumes five major divisions of service on which stenographic salaries should be based.

In operation, the plan provides that each stenographer be credited with 100 per cent. Each of the five major divisions is worth 20 per cent on the theory that each is of equal importance in contributing to the whole.

Accuracy—20 Per Cent

Stenographic accuracy is based on the ability of the stenographer to read and transcribe shorthand notes accurately and to type neatly and accurately without erasures, as follows:

| | | |
|---------------------|-----------------|-----|
| <i>Shorthand:</i> | Excellent | 10% |
| | Good | 7½% |
| | Fair | 5% |
| | Poor | 2½% |
| <i>Typewriting:</i> | Excellent | 10% |
| | Good | 7½% |
| | Fair | 5% |
| | Poor | 2½% |

Speed—20 Per Cent

Stenographic speed is based on the ability of the stenographer to take dictation at the rate of 150 words per minute and to type twelve 24-line (av-

eraging ten words to the line) pages an hour, as follows:

Shorthand

| | |
|--|-----|
| Excellent (150 words per min.) | 10% |
| Good (130 to 150 words per min.) | 7½% |
| Fair (110 to 130 words per min.) | 5% |
| Poor (below 110 words per min.) | 2½% |

Typewriting

| | |
|------------------------------------|-----|
| Excellent (12 pages an hour) | 10% |
| Good (9 to 12 pages an hour) | 7½% |
| Fair (6 to 9 pages an hour) | 5% |
| Poor (below 6 pages an hour) | 2½% |

Intelligence—20 Per Cent

Stenographic intelligence is based on the ability of the stenographer to detect and correct errors in dictation and copy work and to consult the dictator where necessary; on a good knowledge of English grammar and the rules of punctuation; on the ability to spell correctly or, if in doubt, to consult the dictionary; and on readiness of comprehension, as follows:

| | |
|-----------------|-----|
| Excellent | 20% |
| Good | 15% |
| Fair | 10% |
| Poor | 5% |

Cooperation—20 Per Cent

Stenographic cooperation is based on late and absent records; promptness in reporting when ready for more work; willingness to work overtime, if necessary; clock watching; ability to concentrate on a particular job without annoying other office workers; visits to the washroom and to friends in other parts of the office; etc., as follows:

| | |
|-----------------|-----|
| Excellent | 20% |
| Good | 15% |
| Fair | 10% |
| Poor | 5% |

Length of Service—20 Per Cent

This is based on the number of years of employment, assuming the maximum length of time to be over 10 years, as follows:

2 per cent for each year to and including 5 years; 14 per cent for the years from 6 to 10 inclusive; and 20 per cent for 11 years or more.

Salaries are based on the total percentage attained by each stenographer. Assuming the top annual salary is

\$2,600, or \$50 a week, employees scoring up to 50 per cent will receive \$1,200. From 50 per cent to 74 per cent, increases of \$100 are effective for each 3 per cent. Thereafter, from 75 per cent to 94 per cent, increases of \$100 are effective for each 4 per cent. The top salary of \$2,600 is effective only for those attaining 95 per cent to 100 per cent. BY FREDERICK WILLIAM MYERS. *The Office*, September, 1941, p. 18:2.

Timing Device for Measuring Office Output

TO determine the average number of units that can be handled on accounting and other electrically operated machines, a special office-machine timing device is used by the California and Hawaiian Sugar Refining Corporation, Ltd., San Francisco. This device, which was designed by an employee, operates on alternate or direct current and can be used on any electrically operated equipment. It records the actual running time of the motor, and therefore it is necessary to measure the operating time when the motor is not running and secure a conversion factor which can be multiplied by the motor time to secure the total time. This is done by recording the total time consumed in handling a specified number of documents and deducting the actual time that the motor ran during this operation.

In the Tabulating Department the electric timing machine is used to record the total time that the tabulating machine, sorter and multiplying punch are operated. Production of the key-punching machine and verifying machine is arrived at by actual card count. Output in the Stenographic Department is measured by means of mechanical counters.

—*Business Ideas for Increasing Profits* (Prentice-Hall, Inc.) 9/1/41

Birthday Bonus

BOTH unique and practical as a good-will builder among employees is the birthday bonus plan used by J. Wil Yon, operator of the Atlantan and the Cox-Carlton Hotels, of Atlanta, Ga. The plan went into effect soon after Mr. Yon took over the first of the two hotels 10 years ago.

On each employee's birthday—whether he or she be a mail clerk or an assistant manager—the employee receives a birthday card and a check. The amount of the check is computed on the basis of 25 cents a month for each month the employee has been with the hotels. Thus, a person who has been with the organization one year receives \$3.00 on his birthday.

In order to keep an accurate but simple record to use in sending out the birthday greetings and checks, Mr. Yon enters in a diary each employee's name at the time he starts to work. His name is under the date of his birth.

Mr. Yon finds that the idea has done much toward building good will for the organization among all types of employees.

—*American Business* 11/41

Personnel

The Scope of Labor Arbitration

THE work of the labor arbitrator and the process of arbitration differ inherently from the work of the mediator and conciliator and the process of mediation and conciliation. Arbitration is a judicial process. An arbitrator is bound entirely by the record presented to him in the form of evidence and argument at the arbitration hearing.

The mediator and conciliator has a much more difficult task than the arbitrator. Often, when a dispute reaches the mediation stage, there is such a state of bad feeling that the parties will not even sit down in the same room together. On such occasions, the chief job of the mediators and conciliators seems to be that of running back and forth between the two groups carrying messages in the form of proposals and counter-proposals. A tactful mediator, despite the difficulties of such situations, is frequently able to make a common-sense suggestion which results in the parties' agreeing to settle their differences on a reasonable give-and-take basis.

The principle of compromise has absolutely no place in an arbitration hearing. The moment an arbitrator compromises one of the issues involved in a case he disqualifies himself as an arbitrator. Thus an arbitrator should not take judicial notice of anything which is not presented by the parties in the record of the case. Hence it is of

the utmost importance that the parties to an arbitration case prepare their evidence thoroughly.

A few years ago an arbitration award was handed down in a major dispute on the Pacific Coast, and in that award the arbitrator discussed at length many observations pertaining to the industry which he had made during the past 20 years. The language of his decision made perfectly clear that he had decided the case, not on what the parties had proved in the record but on the basis of what he believed he knew from his own observations. The union refused, and rightly so, to be bound by that arbitration award. Unfortunately, this case is not a singular example of the misuse of arbitration.

The point should be stressed that arbitration must not be resorted to too frequently. It is no cure-all for the settlement of industrial disputes, but is subject to definite limitations. Arbitration can be over-used, and occasionally disputes which should never have been brought to an arbitrator for decision have been adjudicated under the arbitration provision of many labor agreements. When too-frequent use of arbitrators is made under a contract, there is a tendency among both parties to resent being continually subjected to the dictates of the arbitrator.

On the other hand, in a very large percentage of labor disputes, arbitra-

tion should be employed as a last resort before making use of economic force through lockouts or strikes. That is, employers and labor should make a bona fide effort to settle their differences by way of collective bargaining, conciliation and mediation. When those processes fail, it is in the interests of all concerned to make use of arbitration.

In various sections of our country there is a growing agitation for legislation which will provide for compulsory arbitration. However, compulsory arbitration is opposed generally by both unions and employers—and rightly so. It is bound to meet vigorous opposition on the part of employer groups whenever it is applied in a manner that endangers their interests, because they will be quick to recognize that its application is bound to threaten the managerial rights of the employers. It will always be opposed by labor because labor recognizes that compulsory arbitration places in the hands of the arbitrator the power to determine the very existence of the union itself.

With respect to voluntary arbitration, the question is frequently asked: What power should be given to arbitrators to enforce their decisions? The soundest answer would seem to be that no power should be given to them; the only power they need is inherent in their position itself. The force of logic and the fairness and soundness of his decisions constitute all the power an honest, impartial arbitrator needs.

But it should be remembered that arbitrators are human and, conse-

quently, unions and employers should not bind themselves under an arbitration clause in a labor contract to accept a given arbitrator for a long period of time, such as for the life of the labor agreement. They should bind themselves to abide by the terms of the decision of an arbitrator in a given case, so long as it is an honest, impartial decision.

The right to file an affidavit of prejudice against an arbitrator and to ask for the appointment of a new one should be preserved. It is a procedural right which is guaranteed in many state jurisdictions, and a right which is vital to the best interests of both employers and unions.

Furthermore, when a labor organization or an employer association submits an issue to arbitration, it should be understood that there is reserved to the parties the right, upon proof of corruption or violation of the judicial function, to request the appointment of a new arbitrator and have the case retried.

There are many types of issues which can best be settled by arbitration. For example, when the parties disagree regarding legal rights guaranteed to them under a contract, there is only one sensible place to go to determine those rights and that is to contract law. A competent arbitrator can determine such rights just as effectively from the standpoint of the law as can a public judge.

Another type of arbitration which is growing in favor is the arbitration of the terms of labor agreements themselves. It is doubtful whether arbitra-

tion is the best process to be used in settling such disputes. It is clear, though, that it should be resorted to if other peaceful and orderly methods fail.

Arbitration of disputes over wages, hours, working conditions, and the other terms of a proposed labor agreement is usually conducted by a board of arbitrators, consisting of three or five persons. The union selects one or two representatives, and the employer one or two, and then an impartial person to serve as chairman is selected either by the parties or by some other agency such as the Department of Labor.

The best procedure in such situations is for the partisan arbitrators to meet at the close of the hearing and determine if they can agree on any of the issues which have been tried before the board. If the partisan arbitrators can reach a mutual agreement on any issue, then their agreement should be made a part of the final award of the board of arbitration. If the partisan arbitrators, after hearing all the evidence, are unable to agree on some of the issues, they should so notify the chairman. It is then his duty on the basis of the evidence pre-

sented in the record of the case, applying to that record the rule of the preponderance of evidence, to write the decision on such issues as could not be decided by the partisan arbitrators.

An arbitration agreement calling for this type of arbitration should provide that, if the partisan arbitrators cannot agree, the decision of the impartial chairman should be final and binding in a given issue. However, most arbitration agreements of this type require that at least a majority of the board must sign the final arbitration award. Such a provision in the contract is a serious defect when the three members of the board all write different opinions and the representatives of the union and of the employer refuse to agree upon a provision which can be substituted for the decision of the impartial chairman. When this situation arises, the only thing to do is to secure a new board of arbitration and start all over again. The best protection against this possibility is to provide that the decision of the impartial arbitrator in such a situation will be final and binding.

BY DEAN MORSE. Condensed by special permission of *Commonwealth Review* (University of Oregon).

► IT COSTS about \$800 to take a woman visitor through the big Douglas Santa Monica aircraft factory, a company official estimated—she distracts so many of their young men workers. A similar factory barred a proposed visit from movie actress Susan Hayward, estimating that time lost for ogling would in this case cost \$20,000.

—Time

The Honesty Test in Employment

THE application blank and the interview cannot be relied on to reveal evidence of dishonesty in dishonest applicants for employment. Letters of recommendation from personal friends and former employers may even be devices for concealing dishonesty. Favorable confidential reports from former employers are at times submitted in the hope of securing a new job for one who could no longer be trusted.

There is no test that can guarantee honesty for the future, but there are tests that, to a high degree of certainty, can ascertain whether the subject has in the past been dishonest.

The Keeler Polygraph Test.—This test has been developed by Leonarde Keeler, of the Scientific Crime Detection Laboratory of Northwestern University.

The polygraph or lie detector, first used practically by the police department of Berkeley, Calif., in 1921, is a collection or composite of instruments—in essence, an apparatus that records the physiological changes in the subject's body that accompany his emotional changes. It is made of three units, one of which measures and records the subject's breathing, another that records changes in his pulse rate and blood pressure, and still another that measures the changes in the resistance of the skin to electric currents.

The common impression is that the lie detector catches criminals, yet its most valuable use in the police and commercial fields as well as in the

community is in the elimination of suspicion from innocent persons. Time, money and effort saved in narrowing down the limits of the investigation are considerable.

Banks have made use of the polygraph, and, among Chicago bank personnel, 15 per cent (2,500 subjects) have, after taking the test, admitted theft of some money. Sixty-two per cent of all tellers tested (those employees handling cash) admitted theft of small or large amounts.

Among employees of department stores, approximately 85 per cent admit having taken money or merchandise or both.

Lloyds of London reduces its bond premium rates when employees are subject to the Keeler Polygraph service findings.

Approximately 60 Chicago banks and mercantile houses use the polygraph method of personnel examination. Some examine all persons making application for positions; others use the polygraph when specific losses are discovered. Sixty-five per cent of all applicants for jobs have taken money or merchandise or both—they are warned of reexamination and passed for bond if their final test indicates the entire truth has been told. Subsequent examination of these persons shows that less than 2 per cent continue their pilfering. Those that make complete confessions usually prove better risks than unexamined and untried persons.

The Ruckmick Affectometer Test.—The affectometer, invented by Dr. Christian A. Ruckmick, is a special type of galvanometer devised to measure the psychogalvanic reflex. Other instruments have been devised for this same purpose.

For many years it has been known that emotional changes cause instantaneous changes in the electrical potential of the sweat glands. The affectometer measures these electrical potential changes in the sweat glands in the palm of the hands.

The affectometer has already been given successful practical tests by the police departments of several cities. In the hands of a competent operator, its success as a lie detector is reported as better than 90 per cent.

The Marston Systolic Blood-Pressure Test for Deception.—In 1908 Professor Hugo Münsterberg, of Harvard University, urged the measurement of blood pressure for evidence of deception. One of his students, William M. Marston, began a series of experiments to try out this suggestion. Without the consent of either Dr. Münsterberg or Dr. Marston, the experiments were given publicity by a newspaper reporter. The reporter christened the blood-pressure test "the lie detector." It is a matter of historic interest that the term "lie detector" was coined to describe the tests devised by Dr. Marston and that it referred primarily to the blood-pressure test rather than to any other type of test. Dr. Marston asserts that in judging emotions use may be made of all instruments that measure relative blood

pressure, respiration, reaction time, psychogalvanic (skin) reflex, and hand tremors. However, in his book, "The Lie Detector Test," he emphasizes exclusively the value of examinations of blood-pressure changes.

Dr. Marston reports successful utilization of the tests in examining consumers' reactions to commercial products—e.g., the reactions of men and of women passengers to airplane travel. He anticipates wide extension of the legal application of the test.

The three honesty tests discussed above are identical in philosophy and in general procedure:

Each test assumes that all emotions are reflected in a particular pattern of physiological changes.

Each assumes that these physiological changes differ not only qualitatively but also quantitatively and so are measurable.

Each assumes that the record or measurement of these physiological changes can be interpreted only by an expert who possesses knowledge of human emotions and is experienced in measuring these changes.

Each type of test assumes that the experimenter is an artist who, by means of his technique of questioning, is able to arouse the emotions to be gauged.

Each type is strengthened by rechecking the responses of the subject. These control tests are coming to be regarded as almost essential.

Many honesty tests are highly reliable but none is infallible, and Marston reports, "In 107 cases the blood-pressure test failed four times." Ruckmick reports successes of 94 per cent. Keeler reports 85 per cent of success.

From *Personnel Management*, by W. D. Scott, R. C. Clothier, S. B. Mathewson and W. B. Spriegel (McGraw-Hill Book Company, Inc., New York, 1941).

Groomed for Industry

APPROXIMATELY 350 enterprises—industrial, commercial, municipal and state—are employing cooperative students who divide their time between Northeastern University in Boston and their jobs. In good times the university has been able to find cooperative employment for practically 100 per cent of the cooperative students—which would seem to indicate that industry has placed its stamp of approval on the plan.

The cooperative plan of education is based on a belief that book learning alone is not an adequate preparation for vocational pursuits, that work experiences in industry during the college period discipline the students' attitudes toward work in general and provide new learning opportunities not found in the classroom.

Northeastern, a young educational institution which has pioneered in cooperative education, enrolls 2,500 students in the Day Colleges of Engineering, Business Administration, and Liberal Arts, all of which are operated on the cooperative plan. As in most cooperative colleges, the undergraduate course is five years in length, with only the freshman year conducted on the usual full-time college-year basis. Beginning with the sophomore year, the student body is divided into two groups, arbitrarily designated as Division A and Division B. While Division A is attending classes, Division B is working. At the end of a specified period, the two groups exchange places; the

Division B student returns to classes at college, and a Division A student reports to work in his place. Each student is expected not only to perform satisfactorily all the tasks assigned him on the job, but also to study his job environment and observe the practical applications of the theories he has learned in the classroom.

Only students who are likely to benefit from the cooperative program are permitted to adopt it. During the freshman year, psychometric and aptitude tests are given. Vocational guidance lectures and conferences with a guidance counselor also help the student discover his aptitudes. Selection for placement is based on demonstrated achievement by the student on tests and in classrooms, supplemented by ratings from activity advisers.

The advantages of this plan to the student are obvious, but what does the employer—who pays the cost of the training—get out of it?

Northeastern University conducts its program on the conviction that a well-trained young man, equipped to perform various tasks effectively and intelligently, is an asset to any employer. An actual case will illustrate this:

A cooperative student was employed in the illuminating department of an electric light and power company as an ordinary draftsman. The work environment provided a much more extensive laboratory of practical equipment than the college laboratory, while

the classroom instruction inspired interest in the work. Under these ideal conditions, the student was able to design and construct an illumination-demonstration kit which the company is now using in sales-promotion activity.

This story is quite typical of cooperative jobs, especially where employers are eager to encourage freedom of expression and experimentation. And as students are required by the university to write work-reports, developing

minds have a medium in which to express ideas.

Of the students now employed, a large proportion will stay with their present employers after graduation. Some will leave to take other jobs; others will continue their education. All will have had training that will enable them to enter the plant or office of some employer and render immediate service without having to undergo an adjustment period of from one to two years. BY W. E. NIGHTINGALE. *Industry*, May, 1941, p. 21:6.

Annual Analysis of NLRB Elections

AN analysis of the elections reported by the National Labor Relations Board for the year ending September 30, 1941, the first full year of elections while the influence of the national defense program operated, shows a record-breaking total of 2,560 elections participated in by 747,225 workers. The number of elections conducted in the past year is nearly double the number of elections held in the year ending September 30, 1940, and compares with a total of 3,408 elections conducted in the first five years of the Labor Board's existence.

An analysis of the results shows that:

C.I.O. unions, by a sizable margin, won more elections than A.F.L. unions.

C.I.O. unions polled nearly half of all the votes tabulated during the year.

The proportion of votes against unions remained exactly the same as last year.

Of the 2,560 elections held, C.I.O. unions won 1,014, or 39.9 per cent of all contests conducted. A.F.L. unions won 887, or 34.5 per cent. Independent unions won 204, or 8 per cent. Unions were rejected in 399, or 15.5 per cent of the elections.

—*Labor Relations Reporter* 12/1/41

Scrap Campaigns

EVERY year millions of enthusiastic Americans participate in clean-up campaigns, but this year the clean-up campaign has assumed greater importance than ever. A growing list of companies is asking employees and public alike to participate in scrap campaigns to alleviate the growing shortage and stave off shutdowns.

One company, American Rolling Mill, collected 8,400 tons of scrap iron in a three-day period. The success of Armco's scrap campaign is not due to advertising and publicity alone. In both Middletown, Ohio, and Ashland, Ky., homes of two of its largest plants, the company has a special telephone set up to receive information concerning the location of scrap. The information is passed along to local scrap dealers, who in turn pick up the scrap from the owner (paying the owner directly or giving the money that would be paid to a charitable organization which the owner specifies). The dealer then sells the scrap to Armco at a profit; Armco is quite pleased with the arrangement.

—*Forbes* 9/1/41

Production Management

An Ideal Anti-Espionage System

BUILDING a successful anti-espionage system which will prevent spying or sabotage without interfering with employees' collective-bargaining rights is a difficult task, but a leading aircraft manufacturer has solved the problem successfully. Experience has proved that, far from being an interference with labor's rights, a well-organized anti-espionage system conducted by an honest industrial relations department encourages proper union activities as well as plant output and prevents disturbances which might disrupt management and labor relations. Few unions will object to management investigation of situations which might eventually result in serious damage to union prestige.

Every employee of this concern is thoroughly investigated by one of three former FBI men employed by the industrial relations department. The policy, accepted by the union, is in suspicious cases to act first and negotiate afterward. In the union agreement is included a clause which provides that members of the union who are not in complete sympathy with all-out aid to Britain should resign from their jobs. Similarly, a conscientious objector is *persona non grata* to both local union membership and plant management. This policy was accepted by the union three years ago because it agreed that the only way to achieve all-out production was to foster all-out morale.

In negotiating the contract with the union, the company granted a union shop in order to induce the union to assume joint responsibility with management for clearing out all members with anti-American, anti-British or anti-defense sentiments. Where the company has proof of offensive attitude on the part of an employee it turns the evidence over to the union, and the union gets rid of the offender. The industrial relations department states that it is an open question whether the closed shop is not the most desirable relationship from the manufacturer's standpoint.

An analysis of the agreed basis of dismissal is interesting. Union members may be dismissed for any one of the following reasons:

1. Expressing pro-Fascist opinions
2. Attending pro-Fascist gatherings
3. Distributing anti-defense, anti-British or anti-American literature
4. Reading Communist or Nazi publications regularly
5. Associating frequently with known pacifists, Communists, Nazis, Fascists
6. Not being able to account for anti-American or anti-British activities of close relatives
7. Writing anti-American or anti-British slogans or propaganda phrases on walls of toilets or lunchrooms.

With thousands of employees under constant observation, the management still maintains the policy of dealing with each case individually, although conditions often suggest group dismissals. Supervisors, watching all the time, develop adequate case data on each individual. Confronted with suspicious actions on the part of an employee, anti-espionage agents check his employment record. If he is of foreign extraction, a further check is made to determine when, if ever, he has made

trips to Europe; and if he is found to have visited Germany, Italy or Russia the matter is investigated further.

This thorough system has been so effective that no serious case of sabotage has occurred in the plant. Known Communists and Nazis have repeatedly attempted to obtain employment here, but they have been wholly unsuccessful despite the fact that the company must draw its employees largely from a foreign-speaking population. *Mill & Factory*, October, 1941, p. 69: 5.

Stimulating Safety Work

ALARGE leather company, with plants at several locations, has adopted a program for stimulating safety work which has proved highly effective. Salient features of this program follow:

1. **Safety Education.** In addition to job training, a first-aid training course was presented at each location. Interest was so great it was necessary to add advanced courses.

2. **Competitive Stimulant.** The company uses a cash bonus plan to reward employees who work for given periods without reportable injury. Bonuses paid since 1935 approximate \$34,000. A high degree of employee confidence and interest has been built up, and each employee has become determined to prevent injury to himself or to others.

3. The system has spurred supervisors to their best efforts. Employees are similarly stimulated through draw-

ing lots monthly for "Safety Man." If a department has a clear record during the winner's term of office, his name goes on the company honor roll.

4. Educational publications are distributed at frequent intervals; safety films are shown and illustrated lectures are given periodically.

5. On a competitive basis, supervisors earn a trip at company expense to the Annual National Safety Congress.

6. The most recent development in the program is the requiring of "near accident" reports from foremen. Recognizing that no one can control injury resulting from an accident, the employees are developing a keen safety-consciousness and view their environment critically to discover conditions that may cause an injury.

7. Quarterly reports of standing are given to each plant manager. They include a copy of the letter in which

the insurance manager reports to the president. Charts and tabulations show the number of lost-time, no-lost-time and first-aid cases, and the extent of time lost by injuries. Similar records are posted on the bulletin boards at each plant. Interest of the employees is evidenced by inquiries whenever

final calculations have been delayed.

As a result of this program, the company's compensation insurance costs have been greatly reduced.

From *Accident Prevention Programs—Pre-Employment Examinations*. The State Insurance Fund, New York State Division of Commerce, 1941. 20 pp.

Trends in Women's Employment

WOMEN'S employment increased almost 4 per cent, men's 10 per cent, in the earliest months of the defense program, according to figures just released for 24 industries. These include large samples from all the industries that employ largest numbers of women in manufacturing. Women's hourly earnings as well as their employment had increased in half the industries reported. Comparisons are made of the situation in October, 1940, with that in September of the year preceding, for identical establishments.

The workweek of women in October, 1940, averaged less than 37 hours in more than half the industries reported, less than 40 hours in all but one. Women's earnings for the week averaged \$16.54 in manufacturing industries, which was less than 60 per cent as much as men's earnings, though recent studies of living costs indicate that a working woman's minimum for healthful living is around \$20.

Women's average hourly earnings had increased in most industries, and most of the few exceptional declines were of less than 1 per cent. Women usually are paid less than men, and since the increases in their hourly earnings were in most cases greater than men's they indicate that state and Federal legislation, designed to raise wages particularly in the lower brackets, is having its effect.

Average week's earnings of women had increased to an even greater extent than their hourly earnings. This was due to somewhat longer hours combined with the advances in hourly earnings.

Changes in employment usually took the same direction for both sexes, increasing in the same industries for women and men, but there were still wide differences in earnings. Men's hourly pay always averaged more than women's—at least 20 cents an hour more in over half the industries.

—*The Woman Worker* 9/41

Utilization of Plant Facilities

THE tempo of defense production has recently been raised sharply through the extension of multiple-shift operations and increased use of overtime. This development toward fuller utilization of plant facilities began in the last six months of 1940. A survey of 299 defense plants by the Bureau of Labor Statistics reveals that the forces working on second and third shifts were increased by 46 per cent and 67 per cent, respectively, during the period December, 1940, to June, 1941. As of December, 30 of the 299 plants were operating one shift a day, but in June only 13 of the plants were still on a single-shift basis. Except in continuous-process industries, however, there are only a few establishments that operate the plant continuously with four 40-hour shifts.

Between December, 1940, and June, 1941, the proportion of persons working overtime in the reporting plants rose from 67.3 to 73.0 per cent, and the average overtime per overtime worker increased from 8.1 to 9.6 hours per week.

—*Monthly Labor Review* 11/41

Marketing Management

What to Do About Auto Allowances

UP goes the cost of operating salesmen's cars. Nothing can stop it when the price of new small cars rises \$100 to \$150 for 1942; when gasoline advances as it has already done during the last half of 1941 (an average of 3.4 cents a gallon in eight states East and West); when repairs and maintenance charges increase with rising labor and material costs.

Nobody can stop it; but what can be done to hold this increase to a minimum?

Careful record-keeping to cover every known item of cost always pays any company; automobile allowances to salesmen made on a scientific basis instead of by guess-and-go is another money-saver; garaging and maintenance by contract in strategically located public shops, backed up by continual company inspection, is a great aid in operating fleets not too widely scattered; timing the replacement of cars to avoid unnecessary maintenance is definitely economical.

A company with several hundred driver-salesmen last spring turned in every car on which mileage exceeded 35,000 miles, regardless of each car's condition. This puts the company in good shape until about the middle of 1942, when it will decide whether to repair or turn in cars for their then current replacement value. Another extensive operator who used to turn in cars at a two-year age, this year

retired every one that had covered 25,000 miles. Thus most of the company's 1,000 or more salesmen's automobiles are now not more than one year old.

A check of many fleet-operating manufacturers shows that no company today can definitely fix its 1942 policy on car replacement until it "gets there" and can balance next year's higher purchase prices and trade-in values against maintenance costs. However, any company can try to get the best possible service out of its cars.

General Foods, for example, asked its salesmen to cooperate to save gas in a bulletin which said:

- See that carburetors are adjusted to give the most economical mixture of fuel and air.

- Increase engine efficiency by tuning up the motor and keeping spark plugs cleaned and gaps properly adjusted.

- Drive at reasonable speeds.

- Use gradual instead of "jack rabbit" starting.

- Avoid over-use of choke.

- Avoid unnecessary use of first and second gears.

- Cut out wasteful idling.

- See that tires are properly inflated, and be sure that lubrication is taken care of at designated intervals.

Also General Foods recently conducted a "combing" of salesmen's routes in all districts. This route analysis resulted in the development of trip lists for salesmen embodying the most economic coverage of all territories. Through this system all useless and non-essential driving is avoided.

Operating records in most cases show noticeable cost increases already. A company which operated a nation-wide fleet of 202 cars 3,010,000 miles in 1939 at 3.08 cents a mile, depreciation included, ran 237 cars 3,315,600 miles in 1940 at 3.23 cents. This year the cost-per-mile has risen slightly but the company "does not anticipate a 1941 increase of more than a minute fraction of a cent" in spite of higher costs of gasoline and tires.

To determine what is happening one need but turn to the findings of Runzheimer & Co., cost research engineers, of Chicago, originators of the Runzheimer day-mile rate plan for the scientific control of auto costs. Runzheimer sent out a bulletin to users of its service on June 7 recommending increases in allowances for salesmen-owned cars as follows:

The six New England states—add .15 cents per mile to present allowances.

Minnesota, Wisconsin, Michigan, New York, Pennsylvania, New Jersey, Delaware, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Georgia, Florida and the District of Columbia—add .10 cents per mile.

A second bulletin, as of August 7, recommended increases as follows:

Kansas—an increase of .10 cents per mile.

Oklahoma—an increase of .20 cents per mile.

Tires have increased somewhat in price, and other advances would be no surprise under war conditions, but increased mileages so far have offset the costs; thus there has been, to date, no increase in tire allowances by Runzheimer clients. If new car costs go up \$150 as is predicted at this writing, then the depreciation to be allowed on the salesman-owned car, according to the Runzheimer figures, should be increased from \$30 to \$50 a year. *Sales Management*, October 10, 1941, p. 58:4.

How to Conduct a Direct Mail Campaign

IT IS impossible to estimate how much money is wasted annually by the direct mail advertiser who simply whips together a half dozen folders, makes up some blotters, has a booklet printed, and distributes the entire lot through the mail. Executive wastebaskets give eloquent proof of the amount of money wasted by campaigns which have not been well planned and professionally executed.

There are no set rules which can be applied to all direct mail advertisers, but there are a few common-sense rules

which can at least limit the losses and lead to intelligent direct mail advertising. Some of these follow:

1. Of first importance is the mailing list. Make sure your lists are up-to-date, in correct order, and complete. Nothing does so much to lessen effectiveness of direct mail as to have the recipient wrongly addressed. As a good-will builder, direct mail addressed to persons who have moved has an almost precisely opposite effect.

2. Analyze the market to be covered and check your mailing lists. List sep-

arately customers, prospects and possibilities, then break down into the buyer, the specifier and the influencer. A thorough study of your market will help you decide upon the medium and message to be used.

3. Analyze your own sales talks so that you can determine, first, the dominant, interest-containing thought that will carry the theme of your literature. Check this against all copy and art appeal. Determine then the format of the three types of sales messages—informative, persuasive and reminder. Establish a definite and complete mailing program, setting the number of mailings and the length of intervals. Follow a fixed plan and keep your sales staff fully informed.

4. Working from this general plan, have copy prepared, layouts submitted, and plan production. Remember it is not always the most costly folder or booklet that does the best job. Tailor

your advertising to fit the product and the job to be done. Don't be oversold by glamour when a straight selling job is needed; on the other hand, don't economize by sending out cheap advertising literature to sell quality products.

5. Employ intelligent, capable copy writers and illustrators, and use printing houses that know their job. A direct mail advertising job well done will produce results; a badly done job will be money wasted.

6. Make direct mail a part of your selling and advertising job. Tie it up with your business paper, newspaper, radio or business movie advertising; give it a definite place in the complete program. And devote as much attention to it as you would to a radio program or newspaper advertisement.

By LEONARD L. KNOTT. *Canadian Business*, September, 1941, p. 40: 1.

Where the Retail Dollar Is Spent

MORE than half the money clinking into retail cash registers buys food, beverages, automobiles and automotive needs. In 1939 these stores took in roughly \$22,000,000,000 of the \$42,000,000,000 spent in all retail establishments.

Food stores eat up a larger share of our retail dollar than any other line—24 cents in 1939. General merchandise and automobile stores vie for second place with 13 cents each.

Although total retail sales were 13 per cent less than the \$48,000,000,000 peak in 1929, sales of filling stations and eating and drinking places in 1939 were the highest on record, reflecting prohibition repeal and the sharp rise in liquor sales, and the steady expansion in automobile travel and ownership. Merchants in these lines also cornered a larger share of the retail dollar than a decade past.

Dollar volume boomed to new highs in 1939 in the District of Columbia and 11 states located chiefly in the South Atlantic and Mountain regions, where population increases have been substantial. Largest sales volume continued to be concentrated in populous areas such as California, the Middle Atlantic and East North Central regions.

—*Dun's Review* 8/41

Financial Management

Statistical Reports to Executives

IN its broadest interpretation our present problem is how to present the results of research effort most effectively to the executive. The very existence of a commercial research department on a corporation payroll is vivid testimony that the executives of that corporation desire whatever assistance research men may be able to give management in selecting proper courses of action at the right time.

In an organization where research is (1) directly responsible to the chief executive, (2) free from departmental influences, (3) given absolute freedom of the press so that any finding or recommendation may be presented to the chief executive of the corporation, and (4) given opportunity for frank discussion and interchange of ideas by the research department and management, the written report form offers one of the best approaches to the problem.

Under these ideal conditions the first step in the procedure is usually a frank discussion between management and the research representative as to the exact nature of the problem to be analyzed. Having secured as clear an outline of the problem as it is possible to get from a discussion with management, the research analyst undertakes exploratory work. As results of this materialize, careful notation should be taken and notations converted into a

complete written analysis for the management. Such a report becomes at one time a reflection of the problem to be analyzed, a reflection of the audience that is to receive the results of the analysis, and still a reflection of the analyst conducting the study.

The report in its written form should achieve the following results:

State the Problem Clearly. Frequently this is one of the most difficult parts of report writing—knowing exactly the limits of the subject matter meriting particular attention on the part of management and justifying consideration for inclusion as part of the analysis.

Outline Briefly the Approach to the Solution of the Problem. This is of primary importance when the analysis under consideration is of a non-recurring nature. Many departments have a certain number of reports which recur annually and in which the writer can advantageously brief or omit any detailed description of the procedure to be followed in the analysis of the problem.

Present the Evidence. All significant evidence bearing on the problem under consideration should be presented step by step in the logical sequence of the evolution of the solution of the problem. There is no mechanical means of outlining a procedure for best presen-

tation of evidence on all problems to all groups of business executives. The form of presentation must be adapted to the interests of the audience. For some particular audiences charts may be a handicap rather than an assistance. Probably it would be safe to say that for most business executives charts should be used only when a well-organized table of carefully arranged data would not present the idea equally well.

As evidence is presented on any one segment of the problem, draw conclusions and recommendations thereon directly associated with the factual evidence. Avoid criticisms of individual departments or members of a department.

Draw True Inferences and Deductions from Evidence Presented. It is at this stage of the report that the research analyst must exercise the greatest care in his thinking processes to insure that his thinking is entirely practical.

Frequently his deductions may lead to a modification of policies which have been in existence for a considerable period of time. Under these conditions it is well to anticipate objections which may arise from the new proposed course of action and meet them directly in the presentation. Pre-selling of such ideas by personal contact with any persons influenced by the change is often beneficial in securing cooperation in the desired course of action.

Recommend Courses of Action to Be Taken by Management in Its Choice-Determination Function. All recom-

mendations included in the report incident to the presentation of evidence and inferences drawn therefrom should be recapitulated in the front of the report. This provides the management with a ready summary of the principal results of the analysis for subsequent open discussion before a steering committee. The report in its completed form should be brief, direct to the point, neatly prepared, and easy to read.

The members of the steering committee should have the opportunity to read, study and analyze the contents of the report, and submit rebuttals to all members of the committee where desired. After each member has had an opportunity to analyze the contents of the report, a meeting should be called for a frank discussion of the problem and the courses of action proposed by the research department. The research man should be able to discuss the various phases of the study and the application of courses of action recommended.

Management receptivity to the research reports is frequently enhanced with the passing of time, enabling the business executives to increase their contact with the research department. If the department builds up a reputation of practicality, resourcefulness and impartial judgment, it is reasonable to anticipate impartial hearing and eagerness for its recommendations and conclusions. BY JOHN W. BOATWRIGHT. *Journal of the American Statistical Association*, June, 1941, p. 219:6.

Use of Voucher Checks for Accounts Payable

AN inquiry to determine the extent and practicability of the use of the so-called "voucher check" for accounts payable disbursements was recently addressed to 13 representative companies by an NOMA research committee. By "voucher check" is meant a check form designed to show the name and address of the payee as well as the necessary remittance data. It is designed for use in a "window envelope," thus obviating the need for a second addressing.

On the basis of the replies received, it appears that this form of check is widely used. Every one of the companies reported using some adaptation of this idea. All show the name and address of the payee on the check and transmit it in window envelopes. In one instance, the payee's name and address is placed on the reverse side of the check.

One company reports that this type of check is used in all transactions except for payrolls and disbursements from so-called "working advance" (petty cash) funds. Another company says it is used for all purposes. Others do not specify any exceptions.

Two general methods are employed for showing the remittance information. One plan is to provide a space on the check itself for noting the items covered, vendor's invoice number, etc. Five companies use this method. The other plan is to include such data on a supplementary sheet which accompanies the check. Usually this is a perforated extension of the check which can be separated and retained by the payee before the check is deposited. Five companies follow this practice. Three other companies send a separate remittance slip with each check, provision being made in one instance for one section to be receipted and returned by the payee.

Several companies prepare multiple copies of the check and remittance slip. Most frequently these are in triplicate, one carbon being filed alphabetically by name of payee and the other numerically by check number.

The specific advantages of the system most frequently cited were:

- (1) It eliminates one writing of the payee's name and address.
- (2) It affords greater flexibility and efficiency through the provision of multiple copies of disbursement data and the preparation of multiple records at one writing.
- (3) It permits more complete information to payees on disbursement transactions.

—E. H. CONARROE in *NOMA Forum* 10/41

What the Public Thinks of Management

DR. CLAUDE ROBINSON, one of the nation's outstanding authorities on public opinion sampling, has made a survey of what the American people think of business leadership in relation to the defense program. Here are a few of the results:

1. Sixty-six per cent give management a "vote of confidence," saying that business men should have more authority in directing defense.
2. Of the 63 per cent of the people reported dissatisfied with the tempo of the defense program, 49 per cent blame unions and strikes; 33 per cent blame government; only 9 per cent blame management.
3. One-man direction of the defense program is favored by 47 per cent of the people. Of that percentage, 61 per cent prefer an industrial leader; 17 per cent prefer a leader selected by the Administration; 13 per cent prefer a labor leader; 9 per cent say it depends on the man.

—*N.A.M. News Letter* 11/22/41

Insurance

Products Liability Insurance

ALL business enterprises engaged in the sale and distribution of merchandise should carry products liability insurance, if it is at all possible for them to do so. There has been an increase in the number of claims made by individuals for injuries sustained as the result of alleged defects in merchandise, and, because of the increasing use of new chemicals, more of these claims may be expected in the future.

The claim in such a case is generally made against the store which sells directly to the consuming public, as in most instances the manufacturer or wholesaler is not subject to process under state law. Many stores rely on a statement from the manufacturer that the article contains no injurious substances, but such statement will in no wise protect them against loss resulting from a claim.

Defense of cases of this character is rather expensive. It requires a detailed analysis of the article involved, the securing of information as to the number of claims made by individuals who used such articles, and presentation of figures on the number of articles sold. Extensive tests frequently are required.

The courts, in determining whether an article is injurious or not, have laid down certain principles of law. Generally, there are two classes of cases: those where the substance complained

of is not in itself harmful, and those where it is in itself harmful.

In the former class of cases, the courts usually lay down the rule that whether or not the claimant was injured as a result of a defect in an article is a question of fact for a jury to determine. The question which naturally arises is: Was the number of people affected by the use of the commodity greater than normal? No general dictum has been laid down as to the percentage of users that must be affected by such an article before it can be said that it is injurious and the store liable.

In the second class of cases, where the substance used is inherently injurious, the sole question is whether or not the substance has been used in such concentration that it would be injurious to more than a normal percentage of consumers.

In cases of pure allergy, of course, there would be no liability. The term "allergy" has been defined by the courts as the susceptibility of certain human beings to the use of particular substances. But—it is necessary for the store to establish that the individual was allergic, and to do so is expensive.

The courts, in most jurisdictions where these questions have been presented, have almost uniformly decided that the questions involved are primarily questions of fact, subject to the determination of a jury, rather than

matters of law for determination by the court. This makes it very difficult to defend cases of this character successfully, because the tendency of juries is to favor the plaintiff and hold the store or the manufacturer liable. If the store which sells the article is not adequately protected by insurance against claims of this character, it may be obliged to pay a single claimant more than it

would cost for adequate insurance coverage.

Many insurance executives believe that claims of this nature may soon rival or exceed claims under automobile liability policies in the extent of their volume and cost. To be without protection against such a hazard is to invite disaster. *Insurance Decisions*, September, 1941, p. 81:2.

Observations of an Insurance Buyer

WHILE there has been a recent attempt to broaden certain policy forms, insurance still fails to meet all the buyer's needs. The insurance seller has only a limited assortment of goods on his shelves and often the buyer must walk out dissatisfied, with a suit shortened here and lengthened there—the best he can get but perhaps not what he needs and wants.

Constructive work could profitably be done in investigating the buyer's needs and broadening various policies accordingly. Keen competition has produced most of the needed improvements, but scientific investigation and classification could produce still more.

The automobile public liability insurance policy recently has been materially improved. But does the public know this? The average car owner cannot read certain of the new and broader clauses in his new automobile policy with any reasonable or satisfactory degree of understanding. A lesson can be learned from the automobile industry. When a new model auto-

mobile is brought out, improvements are described to the prospective customer, no matter how technical they may be.

There is an increasing interest in insurance education, and this is certain to raise the standards of the profession. Men with a professional and ethical viewpoint will replace the old-fashioned, high-pressure, oratorical type of salesman. Unfortunately, not enough trained men are as yet in the front rank.

We find increasingly rigorous educational and professional standards for the licensing of brokers and agents, and this should gradually improve the personnel of the industry. But this regulation from outside should hardly be necessary; the industry can, if it wishes, go far beyond governmental regulatory standards.

The foundation upon which the insurance industry is built is confidence. With confidence destroyed, no insurance would be bought or sold. I find the newer type of salesman does not

attack competitive insurance. Breaking down confidence in any insurance company, group of companies, or plan of insurance breaks down confidence in the whole institution of insurance. To do this is to invite outside regulation of the industry.

Insurance by no means enjoys all the public good will that it deserves; the whole problem of public relations requires study by insurance men. There is evidence of increasing outside regulation, and only regulation from inside will prevent it. Once let insurance become a political football, and there will be no force on earth that can stop its being kicked around—except favorable public opinion. Every inspector, engineer, claim adjuster, broker and agent should be jealous of the public favor in which his business is held and should inspire public confidence in the institution of insurance.

The whole theory and practice of

rating should be substantially improved. With the elimination of inconsistencies in rates and the establishment of scientific rating standards which can be defended at any time, the necessity for the state's assuming the rate-making function is eliminated. Similar study of insurance forms and coverages should result in simpler and more readily understood policies.

As a buyer of insurance, I see many promising signs; the most outstanding is that the industry is examining itself critically. I see also unlimited opportunities for development in fields as yet hardly touched. How are these opportunities for development to be found? Simply enough. They will come about when the insurance companies present their goods and services to their prospects in the light of the prospects' needs and wants. BY HENRY ANDERSON. *The Casualty & Surety Journal*, November, 1941, p. 12:4.

Planning the Advertising Campaign

BACK in the good old days, national advertisers did things in a big way. No buying of advertising by the quarter or half year; a campaign was usually planned and purchased a year ahead. Those were the days, too, when agencies and advertising departments had an end-of-the-year rush that resembled the income-tax collector's office at the deadline.

Depressions and wars may have made the average human more canny about the future, for a change has crept over advertising habits, according to a *Sales Management* survey based on information supplied by executives in leading advertising agencies. No longer are there long idle stretches for the ad men in the spring and summer months; actually this is the second busiest quarter of the year.

Thus, 20.5% of the advertisers covered begin a new year with new plans—that is, they plan their advertising campaigns in the first quarter; 15.9% do their planning in the second quarter; 23.4% in the “dog days” of the third quarter; and 40.2% wind up the year by doing their planning in October, November and December.

The placing of orders for space and time and the release of contracts has a slightly different schedule, with advertisers buying most liberally in the first quarter of the year (33.8%); 17.6% purchase in the second quarter, 19% in the third, and 29.6% in the closing months of the calendar year.

—*Canadian Business* 9/41

The Management Question Box

Questions and Answers on Management Practice Based on the Inquiries Received by the AMA Research and Information Bureau.

Individual replies are made promptly either by mail or telephone to inquiries received by the Research and Information Bureau. This service is available to executives of concerns holding company memberships. The questions cited here are those which it is believed are of general interest to the membership.

Premiums for the Night Shift

Question: Do workers on the night shift generally receive higher pay than day workers? If so, how large is the differential in most cases?

Answer: The National Association of Cost Accountants recently undertook a survey covering excess labor costs and overhead entailed by increased production. Inquiries were sent to 237 companies which operate with night shifts, and 149 reported that they paid premiums for night work.

In 33 of the 149 companies which pay premiums, the night worker receives 5 per cent more than the day worker; in 15 cases the premium is between 5 and 10 per cent; in 41 cases it is 10 per cent; and in seven cases it exceeds 10 per cent. Nineteen firms give night-shift employees five cents an hour more than those on the day shift. In the remaining 34 cases there are a number of variations.

Twelve companies reported having a third shift as well as a second, and in every case a higher premium is paid on the third shift than on the second. These premiums range from 3 per cent on the second shift and 5 per cent on the third to 10 per cent on the second shift and 15 per cent on the third. Another group of companies which employ three shifts reported flat payments ranging from one cent an hour on the second shift and five cents on the third to six cents on the second and nine cents on the third.

Air Travel by Employees

Question: Do most companies have definite rules governing air travel by their employees? If so, what classes of employees are permitted to travel by air? Are there restrictions covering the length of air trips or the time of day at

which employees may fly? And do companies customarily carry special insurance for employees who use air transportation?

Answer: A limited survey, in which replies were received from 15 large manufacturing concerns, was conducted on this subject; and the answers reveal that in general these companies do not differentiate between airplanes and other forms of transportation. This undoubtedly reflects an increasing acceptance of air travel, due to the low accident rates of recent years and a growing recognition that the higher cost of air travel is, more often than not, offset by the saving of time. The time-saving factor, obviously, is especially important in the case of high-salaried executives.

Eleven of the 15 companies report that they have adopted policies concerning air travel by employees, while the four others state that their policies on the matter have not been definitely formulated as yet. Actually, practice is about the same in both groups since the policies already developed do not lay down restrictions—with some minor exceptions.

Seven companies permit any employee, providing he is on company business, to travel by air if he wishes to do so. One of these firms allows employees to use its account to obtain a discount even when they are not traveling on company business.

Three companies leave the method of transportation entirely to the individual in the case of executives but require other employees to obtain permission from their department heads before they travel by air. In one of these concerns salesmen also may use air transportation whenever they consider it advisable.

Five firms state that they permit any executive or key man to fly if he wishes to, but do not report on the rules governing air travel by other employees. One of these firms, while it does not forbid air travel by its executives, does not encourage it; another specifies that employees shall not be ordered to use airplane transportation. The following provisions are made by a third company:

"At no time will two men of executive rank in a Division or General Staff Department fly in the same ship—i.e., General Manager and Production Manager, two Plant Managers, General Manager of Sales and Assistant General Manager of Sales, Director of Central Research and Assistant Director of Central Research, and comparable executives.

"At no time will the President, the Executive Vice President, and a Vice President or other officer of the Company travel in the same plane. With the consent of the President or the Executive Vice President, an Assistant to the President may fly with either."

No restrictions are laid down by any of these companies as to the length of flights or time of day at which employees may fly. The only limitation of any kind made is in the case of one company which restricts flights

to those "in craft operated by recognized transport lines on their officially designated routes and on regularly scheduled flights."

Eleven companies carry no insurance of any kind covering airplane travel, but several mention that employees are covered by company group life insurance. One company owns an airplane of its own and carries insurance for those using it. Another firm provides special insurance for its export representatives who have to take long trips. A third company has a \$25,000 policy which applies to executives using airplane transportation. Another firm states:

"Insurance is carried when air travel is frequent, otherwise the matter is left to the employees' discretion. Premiums on one-trip flights paid by an employee at the airport are repaid by the company as part of the employee's expenses."

Defense activities have not as yet caused any changes in company policies covering airplane travel. Several traffic managers, however, comment on the increased tempo of activity that has resulted from the defense effort, and one says, "A workday saved by utilizing air transportation is becoming a significant factor in the formulation of travel plans." Another states that his company finds a greatly increased need for air travel and is giving attention to the formulation of more definite policies.

Arbitration Clauses in Union Contracts

Question: Is it desirable to include an arbitration clause in a union contract? How widely does this practice prevail?

Answer: We have not noted any statistical studies covering arbitration clauses in union contracts, but many of the contracts in the Association's files contain such clauses. Arbitration generally comprises a part of the grievance procedure; the clause usually provides that a dispute be referred to arbitration when other steps in the procedure have failed to adjust it.

While arbitration of labor disputes has not proved unfailingly satisfactory, its usefulness has indubitably been demonstrated. One of the major difficulties has been that both sides often fail to realize there are basic principles involved in the process; a long step toward satisfactory results has been achieved if provision is made in the original agreement that these basic principles be observed.

Arbitration laws in Connecticut, Louisiana, Massachusetts, New Jersey, New York, Oregon and Hawaii provide legal validity for decisions of arbitrators if the procedures laid down in the laws are observed. However, these laws vary from state to state, and none of them provides a complete guide for arbitration proceedings. Rules of procedure to implement these laws

have therefore been developed and are widely used even in states which have no laws governing arbitration.

Those who are considering the inclusion of an arbitration clause in a union contract should consult the chapter on "Rules of Procedure" in *Arbitration in Action*, by Frances Kellor, First Vice President of the American Arbitration Association (Harper & Brothers, New York, 1941, \$3.50). Miss Kellor wrote this book because of the innumerable inquiries the Association has received, and it embodies knowledge the Association has gained by years of experience in commercial and industrial arbitration.

For use in labor agreements the American Arbitration Association recommends the following general clause, adaptations of which may be made as occasion requires:

"Any dispute, claim, question or difference arising out of or relating to this agreement or relating to its continuance or renewal shall be submitted to arbitration (upon the initiative of either party to this agreement upon notice to the other party) under the Industrial Arbitration Rules, then obtaining, of the American Arbitration Association, and the parties agree to abide by and perform the award."

The experience of the American Arbitration Association demonstrates that the inclusion in a contract of this or a similar clause providing for definite rules of procedure is always desirable since it helps induce a sincere attempt by both parties to comply with the terms of the agreement.

The Rules of Procedure for labor disputes formulated by the American Arbitration Association cover: the method of instituting the proceedings; qualification of arbitrators; appointment of arbitrators; filling of vacancies; arrangements for the hearings; order of proceedings; taking of proofs; closing or reopening of hearings; waiver of oral hearing; administrative fee; panels and compensation of arbitrators; expenses of witnesses; awards; waivers; extensions of time; due notice; and interpretation and application of the rules. Only those who have had experience with arbitration can realize how many difficulties and disputes may arise on any one of these points to sidetrack the main issue or nullify the decision.

► THE SUGGESTION that Defense Savings Stamps be used instead of coins in tipping was made recently by the defense cooperation committee of the National Mineral Wool Association, in a notice to its field engineers and the traveling salesmen of member companies. Books of stamps, in 10- and 25-cent denominations will hereafter be furnished to the engineers and salesmen in proper quantities before the start of their trips, the notice stated.

—The New York Times 9/27/41

"Selling" Personnel Policies

OVER a year ago, officials of the Chicago Mail Order Company discovered that, while the company had certain fixed personnel policies, a large percentage of the employees apparently did not know about them. A series of "Personnel Policy Bulletins" was begun, one being distributed each week, and each dealing with a different subject. So far such subjects have been covered as time-payment sales of the company's products to employees; hospital service; conscription policies; group and hospitalization insurance; legal working hours; collections taken among employees; credit union; individual progress records kept by the personnel department; working conditions—lighting and drinking fountains; vacation policies; suggestion system; rest periods; causes for discharge; etc.

These bulletins are mimeographed on 8½ by 11 paper in a form that can be kept in a binder for future reference. They are worded in a friendly, human manner which seems to say, "Here is what we do"; and for every policy which might seem arbitrary to the average employee, the reason is given.

The company has two practices of particular interest, which, while minor in themselves, undoubtedly contribute greatly to employee satisfaction. A supply of umbrellas is kept in the package room for employees to use on days when it is raining at closing time—rent, 3 cents a day. And employees receive an advance on their pay checks before the Christmas holiday to help them take care of shopping expense. A second check is distributed after Christmas for the remainder of the week's pay not received before. In this way the concern eases the financial burden that accompanies Christmas.

—American Business 11/41

Color as a Production Aid

EXPERIMENTS carried out over a two-year period indicate that brightness and contrast of paint colors when properly combined on machine tools increase the accuracy of seeing, thus reducing accident hazards, provide more comfortable working conditions, and also increase production. The most significant fact developed by these studies is the three-dimensional effect secured by controlled color contrasts. The work piece in machines so treated stands out in stereoscopic clearness that cannot be achieved with brightness contrasts alone.

Many colors possessing higher light-reflecting factors than the conventional dark green or battleship gray of machine tools were tested in the machine shop of the Philadelphia Electric Company. Aluminum, light gray, light green, light blue, yellow and light buff coats were applied in turn to a punch press and a power shear over periods of two weeks. Photometric readings were recorded of light falling on and reflected from working surfaces, while time studies were made of production rates. The psychological effect upon the operators was determined by a simple questionnaire.

The findings would seem to indicate that light buff is the most suitable color where the material under fabrication is iron or steel, with light gray a close second. The main criticism of the light buff was that it was an impractical color from the maintenance angle. Accordingly, as a compromise, all machines were painted a medium gray with light buff around the working area. Surprisingly, the combination seemed to perform better than any of the solid colors.

Mechanics soon become so convinced of the benefits of this color scheme that they keep the light area clean without immediate supervision.

In general, it may be stated that soft contrasts are easier on the eyes than abrupt changes in brightness; that making the tool area slightly lighter tends to concentrate attention on the work; and that bright contrasts can be used to highlight danger points.

—The Iron Age 11/41

Survey of Books for Executives

Top-Management Organization and Control. By Paul E. Holden, Lounsbury S. Fish and Hubert L. Smith. Stanford University Press, Stanford University, Calif., 1941. 239 pages. \$4.00.

It is a comparatively rare experience for the student of management to discover among the many books published each year on every phase of that subject a work which, instead of being the product of unverifiable personal experience, belongs in the category of a scientific contribution to the sum total of knowledge in the field. When such a work makes its appearance, one feels impelled to regard the fact as cause for genuine satisfaction, as well as for extending congratulations to its authors.

Let it be said at once that Paul E. Holden, Lounsbury S. Fish and Hubert L. Smith, of the Graduate School of Business, Stanford University, have succeeded in enriching the literature of management through publication of the results of their research study of the management policies and practices of 31 leading American industrial corporations. Under the ponderous though soundly descriptive title, "Top-Management Organization and Control"

(our English friends would content themselves with "Higher Control" as a synonym), Professor Holden and his two research associates have brought together in admirably organized form a great amount of factual and interpretative material bearing upon some of the most important and complex management problems with which large-scale industrial organization is confronted. As far as this reviewer's knowledge of the literature of management extends, it supports the belief that one must go back to the classic report of the Hoover Committee on the Elimination of Waste in Industry, published in 1921, for an illustration of comparable character in respect of scientific approach and treatment of subject matter.

The study was conducted under singularly fortunate circumstances which augured well for a successful outcome. In the first place, the initiative emanated from industry itself, for as Dean J. Hugh Jackson of the Graduate School of Business, Stanford University, indicates in the Preface, the suggestion that the school undertake such a study was made originally in the spring of 1939 by one of the leading executives of the Pacific Coast. Sec-

ondly, the proposed project rapidly enlisted the interest of a number of other executives, who joined with members of the faculty of the School of Business in the formulation of a broad research program. Last, and assuredly of great practical importance, the necessary financial support was furnished by a dozen industrial organizations, the majority of which are located on the West Coast.

After the program had been formulated, the next step was to decide upon the companies to be invited to cooperate in the study. On the basis that these should be picked from among institutions representing diversified industrial undertakings, with a reputation for progressive and enlightened management, a group of 31 nationally known industrial companies was selected. Classified broadly by type of industry, the group was composed as follows: building materials, 4; chemicals, 5; food products, 2; machinery and equipment, 9; non-ferrous metals, 2; petroleum products, 4; rubber, 2; and steel and steel fabricating, 3. In the opinion of Dean Jackson, "it would be difficult to find a group of better managed, more efficient businesses than these 31 companies; in fact, it includes many of the 'blue chip' companies of America."

As the title of the book indicates, the scope of the study was confined to the policies and practices of top management, a field hitherto little explored in scientific manner. The field work for the collection of the needed factual data consumed over seven months, and an additional period of six months was

required to analyze and coordinate the vast amount of material obtained and to write up the findings. No attempt has been made by the authors to present an exhaustive treatise on the whole field of management, or to pass judgment upon or criticize any company's plan of management. Moreover, they have definitely refrained from recommending any one plan of management organization as best or "ideal" for all companies. What they have aimed at and, indeed, have succeeded in doing is to record what seem to be the most effective and generally applicable plans and devices found among the 31 participating companies for meeting their more common management problems, and to present these in such a way as to enable each company to check its own practices against them and to take advantage, according to its own needs and inclinations, of suggestions for the further strengthening of its management plan.

The authors have divided their text into three parts. The first presents in compact form a "Summary and Conclusions"; the second deals exhaustively with "Organization Practices," and the third in like manner with "Control Practices." An appendix, running to some 24 pages, is devoted to a discussion, in condensed form, of vital considerations pertaining to the board of directors. The illustrations scattered throughout the text number seven, all but two of which relate to various patterns of organization; these are excellently depicted and add materially to the value of the work.

In his desire to do justice to the research study as a whole, the reviewer finds himself confronted with perplexing limitations. It is obviously impossible to comment critically on the many statements of principle and technique advanced in the book. Nor does it appear at all in order to question the validity of any of the scores of practices which the authors report as being in effect in the companies examined by them. What remains for the reviewer is to visualize the approach made by the authors to the area of investigation and to determine in which respects, if any, this could have been modified with benefit to the stated objective.

It is in this latter connection that the reviewer is moved to express a word of criticism on the score of what seems to him to be a regrettable lacuna in the text. He is astonished to a degree that the authors did not include in their work a copy of the complete questionnaire, or data sheet, used to gather the factual data obtained. Unquestionably, much time and skill were devoted to its preparation, and experience in its use in all probability suggested improvements which were incorporated in the course of the survey. To deprive other investigators of the opportunity of studying the data sheet is to withhold knowledge of a technique which the authors surely can have no objection to making generally available as an important part of their contribution. It need hardly be pointed out that the opportunity to make a qualitative evaluation of the data sheet

would in all likelihood pave the way for the formation of intelligent conclusions pertaining to the vitally important factor of comparability among the companies included in the survey. Obviously, much of the value attaching to the findings is, in the last analysis, dependent upon this factor.

The reviewer regards it, furthermore, as unfortunate that the results of the survey as reported do not include adequate treatment of such factors of fundamental significance as the span of control, the optimum of size, and the measurement of management. It is impossible to overemphasize the importance of these subjects under present-day conditions or to ignore their practical bearing and philosophic implications in connection with any program of improvement of top management. Although they are still located at the perimeter of the area which present-day management visualizes as susceptible of cultivation, advocates of sounder integration of the elements comprising top management are bound to recognize that they are fast coming into focus as problems which are pressing urgently for solution.

This review may fittingly be concluded with the statement that the work of Professor Holden and his associates gives abundant evidence of sound scholarship and penetrating analysis, rising at times to levels of brilliant accomplishment. If more such studies could be undertaken, with equally valuable results, the day would be hastened when competent practitioners of management could realize one of their most ardently sought objectives—the

provision of a scientific foundation for what is still very much an art.

Reviewed by Harry Arthur Hopf, Senior Partner, H. A. Hopf and Company, Management Engineers, New York.

How to Make a Morale Survey.

By Eugene J. Benge. National Foremen's Institute, Inc., New York, 1941. 87 pages. \$7.50.

The term "employee morale" has in recent years come to have wide usage among business executives. Yet just what it is, how it can be measured, and what can be done about it, are questions which have by no means been satisfactorily answered.

In this recent publication of the National Foremen's Institute, Mr. Eugene J. Benge, a management engineer with much experience in the field of job evaluation, has prepared a manual of procedures for the morale survey. In it, Mr. Benge considers the meaning and importance of morale, the methods of measuring it, the proper procedures for constructing and administering morale tests, the analysis of the test results, and the intelligent interpretation and application of the survey findings. For illustrative purposes, he has included a number of charts and test sample pages.

Of the several methods which have been used in making morale surveys, Mr. Benge discusses exclusively the use of the questionnaire. He points out a number of the difficulties to be faced in framing questions which will bring forth unbiased and sufficiently defini-

tive answers, and suggests desirable types of questions. Of particular value are the typical responses to specific questions, showing clearly the advantages or limitations of particular questioning techniques.

The chapter entitled "Analyzing the Results" describes several methods of tabulating and rating the questionnaire replies, including the use of punched cards and mechanical tabulation equipment. Preparing an accurate summary of group attitudes is a difficult problem, and a survey of this kind can be worse than none at all if the responses cannot be correctly interpreted.

This manual should serve a definitely useful purpose to most top-management executives for several reasons. First, it deals in simple, logical order with the reasons for and methods of conducting the morale survey. It presents the employee morale problem as a most serious one, but does not attempt to dramatize it nor to become highly technical in its discussions. Second, this manual corrects some of the rather common misconceptions regarding the reasons for making morale surveys. For example, the author points out that attitude studies are designed not primarily to find out why employees feel as they do but rather to find out how they feel, since they are ordinarily far more able to express themselves accurately regarding the feelings themselves.

Finally, Mr. Benge's manual includes a bibliography of materials written on the subject of employee attitudes and morale, and also a digest of some outstanding articles on em-

ployee attitude studies. These should be of great use not only to the business executive but to the student of this highly important aspect of personnel management as well.

*Reviewed by Donald K. Beckley,
Rochester Athenaeum and Mechanics
Institute.*

The Control and Valuation of Inventories. National Association of Cost Accountants, New York, 1941. 408 pages. \$3.00.

Despite the so-called "inventory depressions" of 1921 and 1937 and the distressing inventory write-downs of 1929, it has taken priorities and difficulty in obtaining material to bring to business executives generally a full realization of the importance of inventory management in their companies.

This book provides complete coverage of the inventory problem. There are separate sections on inventory control, inventory valuation, inventory taking, and current inventory practice. The material is essentially of the case-study type drawn from a group of representative and diversified industries. Most of the papers included in this book have appeared previously in N.A. C.A. Bulletins and Year Books, but some previously unpublished material is included.

The essential merit of a book of this sort is in the presentation of various points of view and the relation of the principles of inventory control and valuation to the practical problems of a variety of industries. The control section, for example, contains papers

dealing with inventory control methods in such industries as those manufacturing electrical goods, silverware, rubber sundries, tires, clothing, brass goods, and confectionery for chain stores. Problems and methods relating to the coordination of inventory control with purchasing, planning and production control are dealt with fully, as are the special problems presented by the various sections of the inventory. In this section two of the more interesting papers deal with inventory control under fluctuating production and the control of spoilage and material usage.

The valuation section again illustrates the inherent value of a book of this sort. No one author would have been able to present the variety of viewpoints and the good and bad features of each of the various methods of valuing inventories which are provided by the dozen papers in this section. Included are papers dealing with such methods of inventory valuation as cost or market; cost only; standard costs; first-in, first-out cost; average cost; last-in, first-out cost; normal stock; inventory reserves; and the use of the price-adjustment account. With the recent and prospective increases in prices and costs, accountants are again faced with important policy problems in connection with the valuation of inventories.

The inventory-taking section, dealing as it does with the important matters of planning and taking physical inventories, is made further useful by the inclusion of a case study outlining the uniform inventory-taking proced-

ure adopted by one company with several plants and subsidiaries.

The final section contains reports of two research studies by the Research and Technical Service Department of N.A.C.A. which summarize present-day practice in controlling and valuing inventories. Included also are a helpful bibliography of current literature on inventories and a useful index.

Federal Finances in the Coming Decade. By Carl Shoup. Columbia University Press, New York, 1941. 121 pages. \$1.00.

As a result of the defense effort, the United States faces a financial problem the size of which few persons comprehend. The solution to this problem cannot be found until figures of some sort are set down by means of which a full realization can be obtained of the size and complexity of this fiscal problem and the relative importance of its various parts.

Professor Shoup has attempted this, and no more. Here are various figures—not predicted figures, but estimated minimums. By means of these estimated minimums he has plotted in rough outline the financial future of this country for ten years ahead. This, it must be emphasized, is not prediction or prescription. On the contrary, it is an effort to promote a careful, dispassionate discussion of the next decade in terms of fiscal policy. To be sure, Shoup has had to base his whole study upon some definite ideas of what the future holds for the world. In this respect he is very explicit, as witness his 12 basic assumptions, one of which is a British victory in 1943 or 1944.

This is a small book, but it treats of the largest figures this or any other government has ever been called upon to consider. Here is the shadow of financial things to come—a shadow which will darken our country if we refuse to prepare for it.

Briefer Book Notes

THE PRESIDENTS AND CIVIL DISORDER. By Bennett Milton Rich. The Brookings Institution, Washington, D. C., 1941. 235 pages. \$2.00. This study shows how the presidents have handled the major instances of domestic disorder. The Whiskey Insurrection, the Dorr Rebellion, the Great Railroad Riots of 1877, the Pullman Strike, the Bonus Marchers, and the strike at North American Aviation—in these disturbances and others the role of the president is considered in detail. Emphasis has been placed upon the manner in which the presidents have made use of the Army, together with the methods employed by the armed forces to terminate disturbances.

BETTER SHIPPING MANUAL: 1942 EDITION. Edited by E. K. Collins and David Dubow. Shipping Management, Inc., New York, 1941. 134 pages. \$3.00 (foreign, \$4.00). Third consecutive issue of a manual which has become a "must" on the reference and reading schedules of shipping department heads and traffic managers. Contains authoritative data on shipping room design, equipment, handling, packing and wrapping, shipping department clerical work, warehousing, waste elimination, defense requirements, etc.

YOUR INCOME TAX. By J. K. Lasser. Simon and Schuster, New York, 1941. 144 pages. \$1.00. Latest edition of the most widely used tax guide in America, incorporating interpretations of the many important changes in the new tax law. Tells how to prepare tax returns correctly and quickly, and indicates various steps which may be taken to reduce taxes.

BUSINESS AS USUAL: THE FIRST YEAR OF DEFENSE. By I. F. Stone. Modern Age Books, New York, 1941. 275 pages. \$2.00. A criticism of the progress of the defense effort and the dollar-a-year men who run it. Mr. Stone's targets include the Aluminum Company of America, Mr. Knudsen, the automobile industry, and big business generally. Occasionally he scores a bull's eye, but his position well to the left of center sometimes distorts his aim.

ADDRESSES ON INDUSTRIAL RELATIONS: 1941. *Bulletin No. 13*, Bureau of Industrial Relations, University of Michigan. University of Michigan Press, Ann Arbor, Mich., 1941. 95 pages. \$1.00. Papers delivered at the annual conference on employer-employee relations conducted by the Bureau of Industrial Relations at the University of Michigan in April, 1941. The authors are men who are active in defense industries or agencies, and subjects include: "Industrial Leadership Under Current Conditions"; "Economic Problems Generated by the Defense Program"; "Recruiting and Selecting Employees in Rapidly Expanding Industries"; "Training Programs for Supervisors and Employees"; "Employee Cooperation in Quality Control"; and "Emergency Measures Affecting Canadian Industry and Labor."

FIRST ANNUAL PROGRESS REPORT: SEPTEMBER, 1940—SEPTEMBER, 1941. Training Within Industry, Labor Division, Office of Production Management, Washington, D. C., 1941. 28 pages. Starting from scratch a year ago, the Training Within Industry branch of the OPM has aided 1,600 companies in upgrading and training programs. This report presents not only a general account of TWI's progress and procedures but the facts and figures for each section of the country. Addresses of district offices are given, along with the names of the representatives in charge of each. Charts show the organizational setup of the branch.

BUSINESS LETTERS. By Walter K. Smart and L. W. McKelvey. Harper & Brothers, New York, 1941. 539 pages. \$4.00. Revised edition of a textbook which outlines the principles of business-letter writing through the use of examples. Includes exercises and problems and a handbook of business English usage.

THE VOTING TRUST: A DEVICE FOR CORPORATE CONTROL. By John Anton Leavitt. Columbia University Press, New York, 1941. 216 pages. \$2.50. A study for economists of the nature, history, uses and law of the voting trust, with appendices containing the Securities and Exchange Act, Form 16; the Securities Act, Form F-1; and a comparison of the earnings of firms with and firms without voting trusts.

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